SEPTEMBER 20, 2024

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FFTT "Tree Rings": *The 10 Most Interesting Things We've Read Recently*

Here are this week's "Tree Rings". Have a great weekend! LG

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“FYI – the Taylor rule estimate of neutral policy rate calls for a 25 bp HIKE”

Tree Ring: Vincent Deluard’s post at right caught our attention in the aftermath of the Fed’s 50-bp rate cut this week.

For the uninitiated, here is some background on the Taylor rule:

Key Takeaways

- *The Taylor Rule is a formula that prescribes how central banks should set interest rates, factoring in considerations such as inflation and GDP growth.*
- *Per the Taylor Rule, the Federal Reserve should increase interest rates when inflation exceeds targets, or when output growth is too high.*
- *The opposite also applies: When inflation falls short of targets or when output growth is below potential, the Taylor Rule urges central policymakers to lower interest rates.*

Source: [The Taylor Rule: An Economic Model for Monetary Policy (investopedia.com)]

If we knew nothing else other than *“The Taylor rule says that the Fed should hike by 25 bps and instead the Fed cut by 50 bps and arranged the Fed dot plot to suggest another 50 bps of cuts are coming by year-end 2024”*, we would say *“Buy gold, buy BTC, buy stocks, and sell DXY and LT USTs against them.”*

Indeed, the initial reaction of markets was exactly this…<u>and if/when markets digest exactly WHY the Fed did this (because the US fiscal position required it), we believe this reaction will continue into year-end.</u>

Let’s watch.

“Ahead of the Fed decision, the Goldman Sachs US Financial Conditions Index is at its loosest since May 2022”

Tree Ring: Financial conditions for the US private sector may have been the loosest since shortly after the Fed started tightening in May 2022…

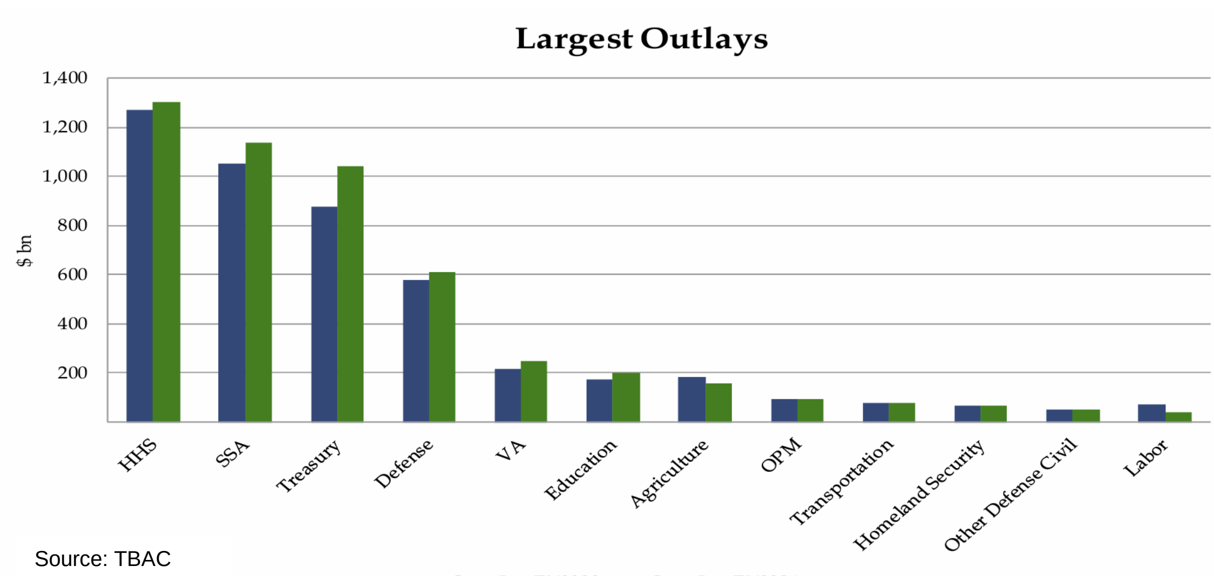
Kevin Gordon
@KevRGordon

Ahead of the Fed decision, the GS U.S. Financial Conditions Index is at its lowest/loosest since May 2022

8:41 AM · Sep 18, 2024 · **2,355** Views

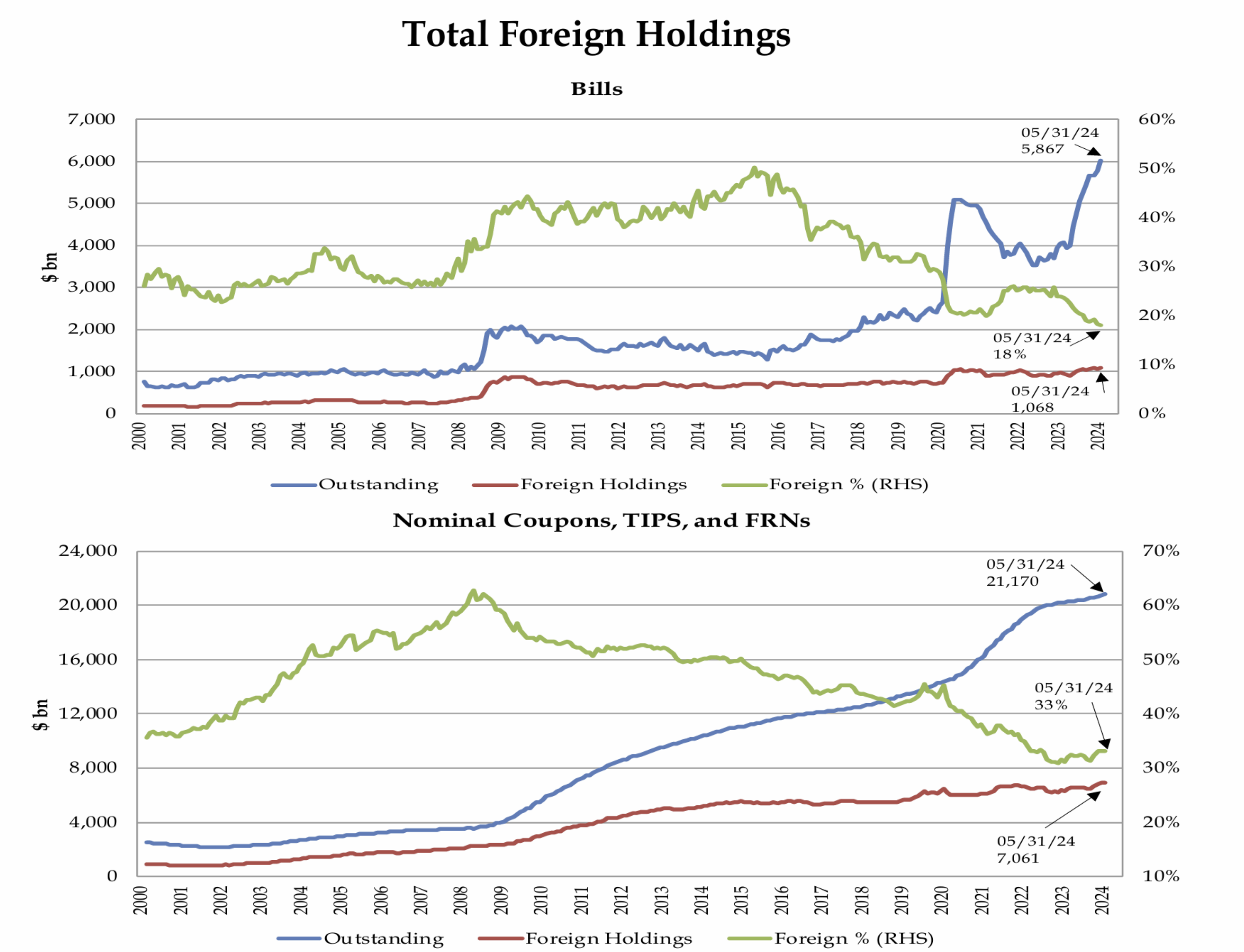
…but financial conditions are NOT loose for the US government: US True Interest Expense is running at nearly 100% of US receipts, with “True Interest Expense” at 150% of receipts in August and 120% of receipts in July (highlighted in these pages last week). Recall that we wrote the following in these pages on August 2:

> ***In our view, by far the most important (but underreported) takeaway from last week’s Treasury QRA was the TBAC quarterly report showing that US “True Interest Expense” (Entitlements + Interest) was already running at nearly 100% of US Treasury receipts*** *(~$4.7T annualized through June, while trailing 12-month Treasury receipts through June were $4.78T, a ratio of 98%...with $300B+ in Veteran’s Affairs (technically an “Entitlement”) not counted.)*



Source: TBAC

When US "True Interest Expense" is back to 100% of receipts (and mathematically certain to go higher still given US Entitlement obligations, US demographics, and Fed rate hikes already undertaken), **and foreign holdings of UST T-Bills and UST bonds are at/near 25-year low shares of total, <u>financial conditions for the government are VERY tight:</u>**



Source: Treasury International Capital (TIC) System as of May 2024.
For more information on foreign participation data, including more details about the TIC data shown here, please refer to Treasury Presentation to TBAC "Brief Overview of Key Data Sources on Foreign Participation in the U.S. Treasury Securities Market" at the Treasury February 2019 Refunding.

As we have written many times, once US government financial conditions are "tight" *("True Interest Expense" near 100% of receipts)*, either the Fed and/or Treasury inject USD liquidity, or we get the 3q23 regime of USD up, gold up, everything else down until the Fed and/or Treasury do so.

In our view, the Fed saw enough in late July/early August's market volatility after the QRA release and the Fed did not cut rates; <u>this time they cut rates aggressively to loosen financial conditions for the US government.</u>

This is bullish for gold/TLT, BTC/TLT, SPX/TLT, industrials/TLT, US GDP growth, and inflation. Let's watch.

“Foreign holdings of UST’s rise to record in July”

Foreign holdings of USTs rise to a record in July – 9/18/24
[Foreign holdings of US Treasuries rise to a record in July | Reuters]

> *Foreign holdings of U.S. Treasuries rose to a record high in July, while Japan's U.S. government bond assets fell to the lowest since October, data from the Treasury Department showed on Wednesday.*
>
> *Holdings of U.S. Treasuries rose to $8.339 trillion in July from $8.211 trillion in June.*
>
> *Japan's Treasuries holdings decreased to $1.116 trillion from $1.118 trillion the previous month. Japan remains the largest foreign holder of U.S. Treasury securities. China, which is No. 2, cut its holdings to $776.5 billion from $780.2 billion in June.*

Tree Ring: Foreign holdings of USTs rose to an all-time high in the latest Treasury TIC report this week. Casual observers might say, *“See, there’s plenty of foreign demand for USTs”…*to which we would reply like Coach Lee Corso on ESPN’s College Game Day: *“Not so fast, my friend!”* **Check out the latest UST major foreign holdings list and see if you notice what we did:**

Table 5: Major Foreign Holders of Treasury Securities							
Holdings at end of time period							
Billions of dollars							
Link: https://ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/slt_table5.txt							
Country	2024-07	2024-06	2024-05	2024-04	2024-03	2024-02	2024-01
Japan	1115.7	1117.7	1128.2	1150.3	1187.8	1167.9	1151.5
China, Mainland	776.5	780.2	768.3	770.7	767.4	775.0	797.7
United Kingdom	728.3	741.5	723.4	710.2	728.3	701.3	691.9
Luxembourg	399.9	384.2	385.4	385.8	400.9	380.5	376.5
Cayman Islands	378.1	319.4	336.5	319.4	303.5	302.7	318.7
Canada	377.7	374.8	357.4	342.6	369.4	364.2	350.3
Belgium	315.9	318.0	313.0	312.4	317.1	320.0	293.1
Ireland	312.7	308.0	317.7	307.6	317.8	316.9	319.0
France	290.9	307.2	283.0	276.5	271.8	271.5	256.3
Switzerland	285.4	287.1	290.4	291.4	283.5	277.5	283.1
Taiwan	275.0	265.9	263.3	257.3	259.0	255.6	255.9
India	238.8	241.9	237.8	233.5	240.6	234.7	236.1
Singapore	234.2	219.6	213.5	207.5	208.0	205.4	204.7
Hong Kong	230.5	220.6	217.4	220.9	202.2	212.5	228.5
Brazil	229.1	227.0	223.2	223.6	227.1	225.6	226.8
Norway	158.8	153.4	142.8	138.3	148.7	138.6	144.9
Saudi Arabia	142.7	140.3	136.3	135.4	135.9	131.1	133.5
Korea, South	122.7	116.7	120.2	119.9	115.9	119.2	118.6
Germany	101.6	88.0	87.9	87.1	90.2	90.8	90.2
Mexico	95.4	95.8	99.3	93.6	88.9	80.3	75.9
All Other	1528.5	1503.5	1486.8	1459.7	1450.8	1422.0	1398.8
Grand Total	8338.5	8210.6	8131.9	8043.9	8114.9	7993.2	7952.1
Of Which: Foreign Official	3843.3	3827.5	3794.9	3784.2	3815.0	3765.7	3795.3

Source: ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/slt_table5.html

Did you catch it? **Here's what we noticed: Foreign UST holdings went up $127B total, m/m. Of that, $69B, or over half, came from the Cayman Islands, i.e., hedge funds *(who are typically much more fickle creditors than Central Banks or big insurers that want shorter-duration T-Bills, not long duration USTs)*. Incredibly, the Cayman Islands *(pop. 68,000)* is now the 5th biggest US foreign creditor in the world.**

Also note that the UK *(a twin deficit nation like the US that is having acute fiscal problems of its own)* is now the 3rd biggest foreign creditor of the US; here too, this is likely hedge funds, which again tend to be more fickle, shorter-term creditors. The 4th biggest US foreign creditor is now Luxembourg, another global tax shelter.

That the UK, Luxembourg, and Caymans are the #3, #4, & #5 biggest US foreign creditors and that they are making up the vast majority of the growth in foreign UST buying means we can infer that the biggest marginal buyers of USTs are hedge funds. This means more secular UST market volatility, and more UST issuance in T-Bills, which all else equal is more inflationary than financing at longer durations.

This also leads to another important second derivative conclusion: Hedge funds tend to be levered overall, and are sometimes highly levered in their UST positions. This means that a spike in volatility anywhere *(equity, energy, geopolitical, etc.)* will likely lead to hedge fund de-leveraging everywhere, including USTs – i.e., selling USTs on risk-off.

This is likely to lead to secularly higher UST volatility (see MOVE below over the past 5 years), and it also means that if the Fed and Treasury want to not have UST market dysfunction again, they need to proactively keep volatility everywhere tamped down…and a great way to do this is to keep financial conditions secularly loose by keeping USD liquidity managed and plentiful…i.e., "US private financial conditions loose", per earlier.

Can you see the difference between DXY, 10y UST yields, and MOVE UST volatility index lines in the chart at right?

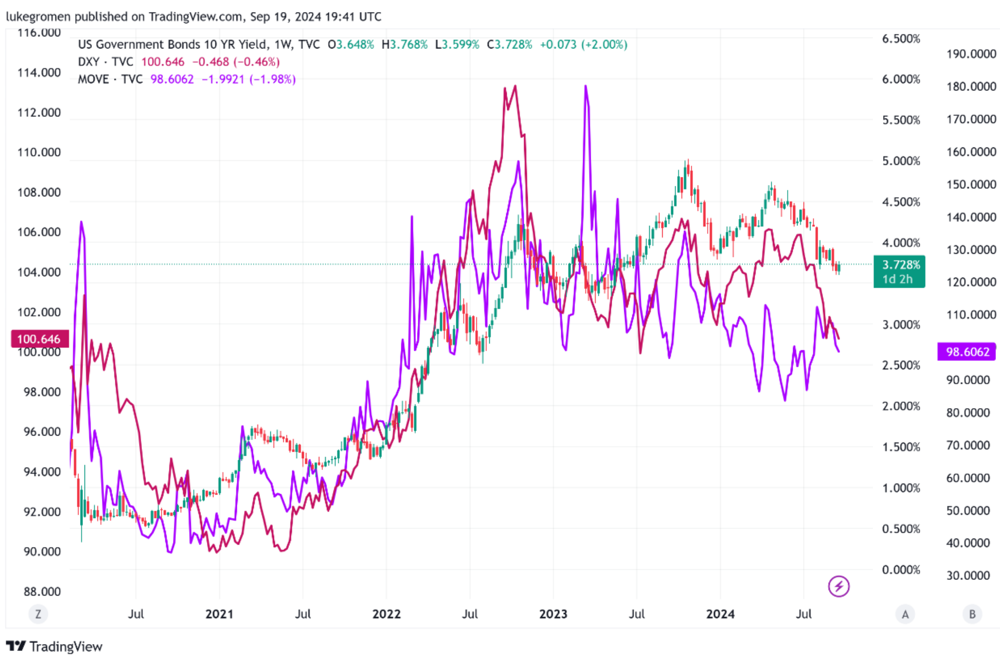
No? That's that point.

The US fiscal situation requires low rates and low UST volatility.

That in turn requires low overall volatility across asset classes.

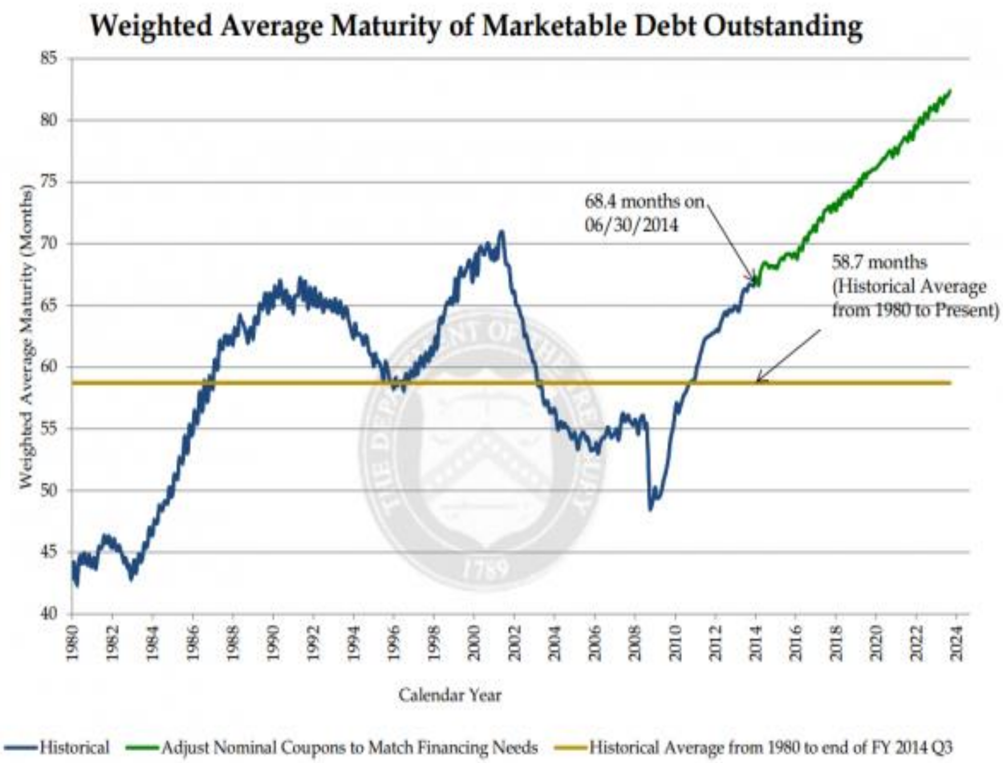
That in turn requires loose enough financial conditions.

That in turn requires an "appropriately weak" USD.



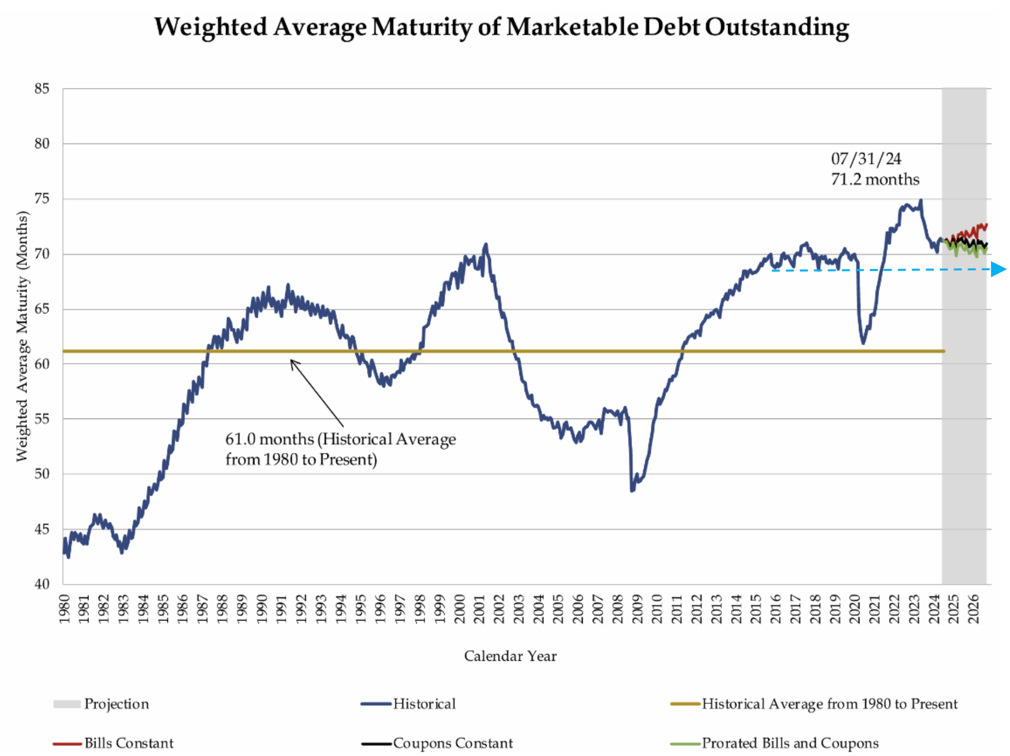
USD down, UST volatility down, 10y UST yields down; USD up, UST volatility up, 10y UST yields up has been true for the past five years, and is likely to remain true, for the time being at least. At some point, the weaker USD will drive higher inflation and then 10y UST yields and UST volatility will likely turn higher…but as long as that does not happen before asset inflation has boosted US receipts far back above "True Interest Expense", that is not a problem…but we can cross that bridge if/when we get to it. This is likely to continue to continue to be secularly positive for gold, BTC, stocks, inflation, all v. LT USTs (gold/TLT, BTC/TLT, stocks/TLT, etc.) Let's watch.

"Life is what happens to you while you're busy making other plans"



Tree Ring: Back in the 3q14 edition of the US Treasury Borrowing Advisory Committee (TBAC) report, the chart at right appeared.

It showed that the US Treasury had prudently extended the weighted average maturity (WAM) of its debt outstanding from ~50 months in 2009 to 68 months by 6/30/14, and planned to continue that WAM extension, with WAM planned to hit 83 months by 2024.



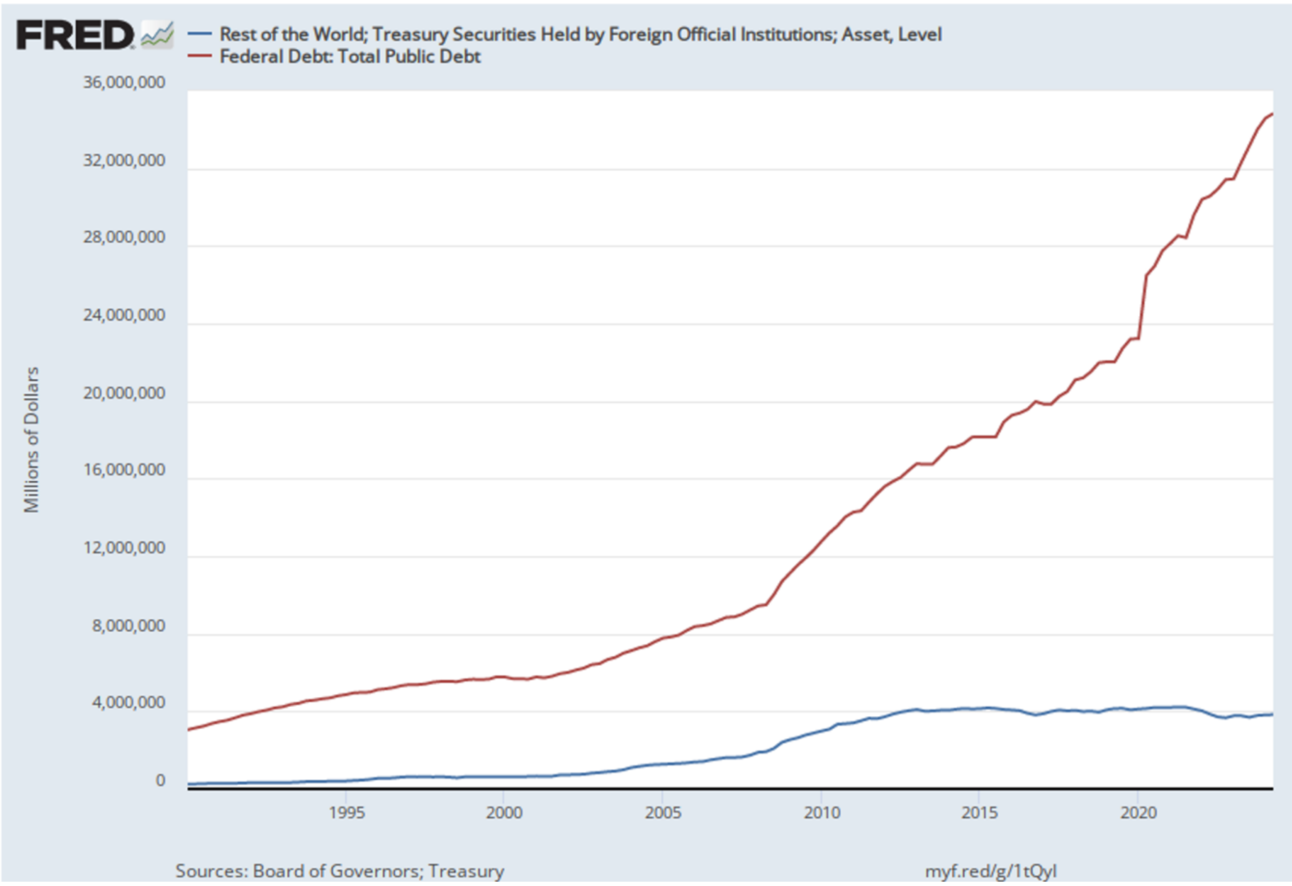
As John Lennon once sang, *"Life is what happens to you while you're busy making other plans."*

It is now 2024, and we can see that the best laid plans to raise US WAM from 68 months to 83 months did not occur.

In fact, WAM basically never rose from that level (aqua dotted arrow), with the exception of a drop in the depths of COVID and a brief rise in 2022-23 until the modest attempt at extending WAM created severe UST market dysfunction three times in 18 months (3q22, 1q23, and 3q23.)

What changed?

Simple: The world's biggest, most patient, least fickle, and least profit-motivated creditors stopped buying USTs for the first time in at least 70 years shortly after the top chart on the prior page was published – <u>global Central Bank UST holdings (blue) stopped rising, while US Federal debt (red) most definitely did NOT stop rising:</u>



Once global Central Banks stopped buying USTs on net while US debt supplies grew non-linearly, the US regulated US commercial banks, MMF's, and pensions into buying more USTs, with Fed UST buying interspersed and adding to those purchases in late 2019 (post-repo rate spike), and then with COVID-related QE from 2020-2022.

The final source of marginal UST demand came from the US and global private sector from 2022-24, after rate hikes made USTs more competitive…but even that was not enough, so the US Treasury needed to move to where the marginal demand was, which was hedge funds…but hedge funds prefer T-Bills, not long duration USTs.

As long as global Central Banks are not growing holdings of USTs *(and at current levels of the USD, they likely cannot or will not)* while US deficits are likely to rise by $2T a year secularly assuming no recession, and $4T gross and $5-6T net in the unlikely case of a US recession, the US Treasury is likely going to continue to need to "fish where the fish are", which is at the short end of the UST curve, and when needed, with the Fed. Both strategies are secularly inflationary.

Let's watch.

"$100B a week in UST roll in Oct-13; $200B a week in UST roll in Oct-18"…now up to $500B a week UST roll in 2024

<u>Tree Ring:</u> Long-time readers of FFTT will recall we have periodically highlighted the growing "roll" of UST T-Bills over time.

Back in 3q18, we highlighted that former Treasury Secretary Jack Lew had testified in October 2013 that he was currently rolling over *"approximately $100B per week in UST T-Bills"*, right…

> *Source: [TRANSCRIPT: Jack Lew's testimony on debt ceiling - The Washington Post]*

…and we noted that the "roll" had grown by 100% just five years later, to $200B per week by October 2018 (below):

$100B a week in roll in Oct-13; $200B a week in Oct-18.

In testimony before the Senate Finance Committee in October 2013, Lew explained why he wanted the Congress to agree to increase the federal debt limit—and why the Treasury has no choice but to constantly issue new debt.

<u>"Every week we roll over approximately $100 billion in U.S. bills," Lew told the committee.</u> "If U.S. bondholders decided that they wanted to be repaid rather than continuing to roll over their investments, we could unexpectedly dissipate our entire cash balance."

"There is no plan other than raising the debt limit that permits us to meet all of our obligations," Lew said. "Let me remind everyone," Lew said, "principal on the debt is not something we pay out of our cash flow of revenues. Principal on the debt is something that is a function of the markets rolling over."

- ***Transcript of Jack Lew's testimony on debt ceiling – WaPo, 10/10/13***
  https://www.washingtonpost.com/politics/running-transcript-jack-lews-testimony-on-debt-ceiling/2013/10/10/3edc0122-31b0-11e3-9c68-1cf643210300_story.html?utm_term=.2c6cdaa64f8d

"The Roll": $10T gross, $7T in next 12 months

Sources of Privately-Held Financing in Fiscal Year FY18 Q3*

April - June 2018	
Net Bill Issuance	(131)
Net Coupon Issuance	203
Subtotal: Net Marketable Borrowing	72
Ending Cash Balance	333
Beginning Cash Balance	290
Subtotal: Change in Cash Balance	43
Net Implied Funding for FY18 Q3**	29

	April - June 2018 Bill Issuance			Fiscal Year-to-Date Bill Issuance		
Security	Gross	Maturing	Net	Gross	Maturing	Net
4-Week	550	670	(120)	1,770	1,755	15
13-Week	624	642	(18)	1,821	1,710	111
26-Week	546	477	69	1,587	1,341	246
52-Week	78	60	18	224	200	24
CMBs	0	80	(80)	139	179	(40)
Bill Subtotal	1,798	1,929	(131)	5,541	5,185	356

	April - June 2018 Coupon Issuance			Fiscal Year-to-Date Coupon Issuance		
Security	Gross	Maturing	Net	Gross	Maturing	Net
2-Year FRN	64	41	23	135	123	12
2-Year	95	78	17	253	156	97
3-Year	93	72	21	243	222	21
5-Year	106	90	16	311	345	(34)
7-Year	88	37	51	257	155	102
10-Year	68	12	56	196	52	144
30-Year	44	3	41	124	3	121
5-Year TIPS	16	53	(37)	30	53	(23)
10-Year TIPS	11	0	11	46	16	30
30-Year TIPS	5	0	5	17	0	17
Coupon Subtotal	590	387	203	1,612	1,125	487
Total	2,388	2,316	72	7,153	6,310	843

US Total UST issuance YTD through 3 quarters of F18 has been $7.1 trillion, with $5.5 trillion of that in T-Bills (<1 year)!

(Source: Treasury, FFTT)

*Privately-held marketable borrowing <u>excludes</u> rollovers (auction "add-ons") of Treasury securities held in the Federal Reserve's System Open Market Account (SOMA), but <u>includes</u> financing required due to SOMA redemptions.
**An end-of-June 2018 cash balance of $333 billion versus a beginning-of-April 2018 cash balance of $290 billion. By keeping the cash balance constant, Treasury arrives at the net implied funding number.

We remember being awestruck back in October 2018 by both the size of the weekly roll in 2018 and the implied growth rate of that roll over the preceding 5 years (a doubling in 5 years is a nearly 15% CAGR), but we had not revisited this dynamic in a while so we thought we would in light of the dynamics highlighted previously of the US' seeming need and continued likelihood of shifting growing UST issuance to the short end. **We were astonished by what we found.**

Below is the same TBAC table as on the prior page, also through 3 fiscal quarters. ***It shows that total UST issuance that ran at $7T through 3 fiscal quarters, with $5.5T in T-Bills in 3q18 was now $20.5T in total UST issuance, with $17.5T of that in T-Bills! The "roll" that was $200B/week in 3q18 is now over $500B per week!*** *(A CAGR of 16.5% over the past 6 years.)*

Sources of Privately-Held Financing in FY24 Q3

April - June 2024	
Net Bill Issuance	(297)
Net Coupon Issuance	540
Subtotal: Net Marketable Borrowing	243
Buyback	9
Ending Cash Balance	778
Beginning Cash Balance	775
Subtotal: Change in Cash Balance	3
Net Implied Funding for FY24 Q3*	232

	April - June 2024 Bill Issuance			Fiscal Year-to-Date Bill Issuance		
Security	Gross	Maturing	Net	Gross	Maturing	Net
4-Week	945	1,035	(90)	3,259	3,299	(40)
8-Week	975	1,095	(120)	3,170	3,120	50
13-Week	910	1,004	(94)	2,883	2,848	35
17-Week	780	750	30	2,268	2,054	214
26-Week	910	878	32	2,692	2,343	349
52-Week	138	108	30	452	346	106
CMBs						
6-Week	855	940	(85)	2,780	2,760	20
CMBs	0	0	0	0	185	(185)
Bill Subtotal	5,512	5,810	(297)	17,504	16,955	549

	April - June 2024 Coupon Issuance			Fiscal Year-to-Date Coupon Issuance		
Security	Gross	Maturing	Net	Gross	Maturing	Net
2-Year FRN	114	68	46	248	214	34
2-Year	204	145	59	537	481	56
3-Year	174	140	34	480	431	49
5-Year	207	35	172	546	187	359
7-Year	131	107	24	368	252	116
10-Year	120	59	61	350	160	190
20-Year	42	0	42	126	0	126
30-Year	69	0	69	202	0	202
5-Year TIPS	44	27	17	86	27	59
10-Year TIPS	16	0	16	65	47	18
30-Year TIPS	0	0	0	9	0	9
Coupon Subtotal	1,121	581	540	3,017	1,799	1,218

Buyback		9			9	

Total	6,633	6,399	234	20,521	18,763	1,758

*By adjusting the change in cash balance, Treasury arrives at the net implied funding number.

Our take? **When you have $500B per week in UST "roll" like Yellen does, you probably do not take kindly to Powell trying to be "the next Paul Volcker." Powell doing so is akin to playing with matches inside a nitroglycerine plant…and we suspect these dynamics factored into Yellen's actions in 3q22 to run down the TGA to weaken the USD, and then to shift issuance to Bills in 3q23, to offset Powell's tightening.**

Bigger picture, the reality of $500B per week in UST "roll" is a very powerful piece of context: The Fed and/or Treasury will ALWAYS have to blink when push comes to shove, and will likely have to increasingly blink proactively…which might be what we just witnessed from Powell on Wednesday of this week. Let's watch.

<u>"So what? The US fiscal problems haven't manifested in bond markets yet...when will they?"</u>

<u>Tree Ring:</u> We were recently asked rather pointedly by someone, *"So what, Luke? The US fiscal problems haven't manifested in bond markets or stock markets yet. When will this matter?!"*

When we got done picking our jaw up off the floor, we highlighted the following charts, all from the date of former Treasury Secretary Jack Lew's previously-highlighted debt ceiling testimony in October 2013.

Here's Gold/ZB (ZB= LT UST futures) since Lew's aforementioned testimony, on a log chart.

Outperformed LT USTs by 7% per year, CAGR.

Here's SPX/ZB since Lew's testimony, on a log chart.

Outperformed LT USTs by 12% per year, CAGR.

Here's Nasdaq/ZB since Lew's testimony, on a log chart:

Outperformed LT USTs by 19% per year, CAGR.

Here's BTC/ZB since Lew's testimony, on a log chart:

Outperformed LT USTs by 74% per year, CAGR.

The charts above suggest the worsening US fiscal problems have been manifesting as exponentially rising hard assets relative to LT USTs for over a decade, and we expect the exponential outperformance v. LT USTs of the asset classes above to continue and expand from here, <u>as the only politically palatable option for the US is to continue shifting issuance to the front end and injecting USD liquidity whenever needed.</u>

Interestingly, here's oil/ZB since Lew's testimony, on an analog chart (not log):

Down 15-20% in total over this 11 years.

Here's the GS Commodity Index/ZB, since Lew's testimony, on an analog chart.

Down about 10% over this 11 year period.

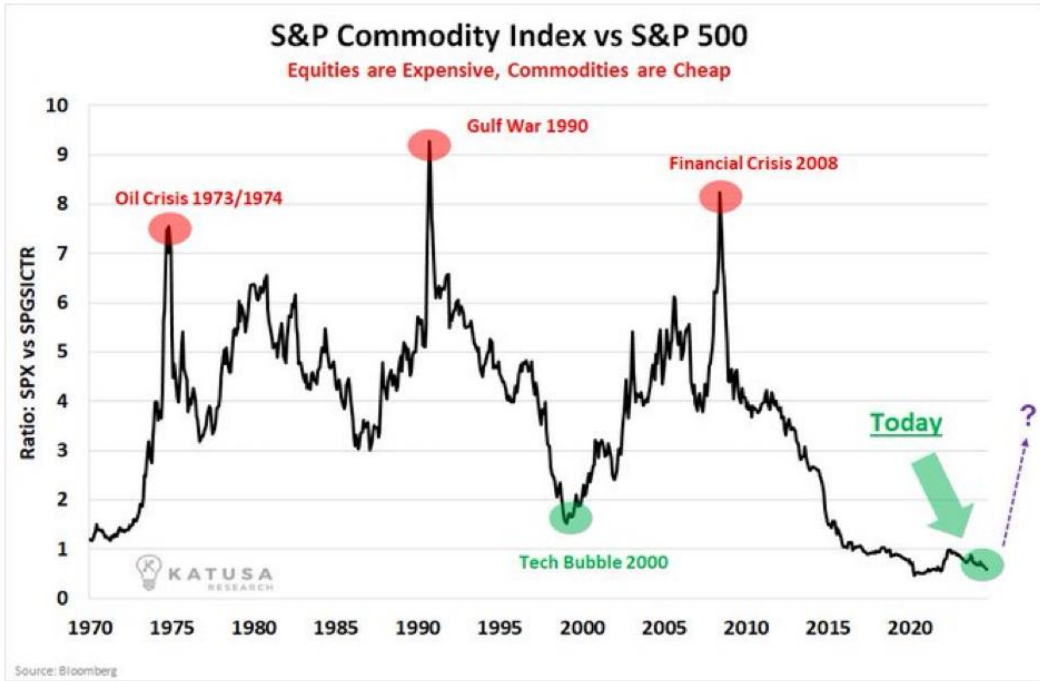
Why have oil and commodities not responded to the accelerating US fiscal problem at all, while other hard assets like gold, BTC, and stocks have massively outperformed bonds in that time?

In our view, it is because policymakers have realized that allowing US fiscal problems to manifest in spiking oil and food prices is a recipe for a stagflationary economic crisis that would crush bonds, growth, and possibly governments *(Arab Spring, anyone?)*, but allowing stocks, as well as assets that "aren't used for anything" like gold and BTC to be the release valve for the US fiscal situation prevents a global economic catastrophe that is not good for anyone.

<u>**We expect gold, BTC, and stocks to continue to be the release valve for the accelerating US fiscal problems, rather than commodities, which we expect to remain range-bound out of realpolitik necessity.**</u> More on this in a moment. Let's watch.

S&P Commodity Index v. S&P 500 is at 55-year low levels…still…and has been for a decade

Tree Ring: After having seen the chart at right many times, for whatever reason, this week it hit us:



Investors that are waiting for commodity prices to spike relative to stocks again due to rising inflation and US deficits are missing the action – <u>the rules have changed, but most investors are still playing by the old rules.</u>

The "new rules" are straightforward:

Multi-currency commodity pricing with net gold settlement at the Central Bank level means that <u>the US deficit release valve is no longer oil and commodities v. the USD, but rather, gold v. oil, other commodities, and the USD:</u>

Everyone is so focused on waiting for oil and commodities to spike that they have missed the Gold/Oil Ratio (GoR) rising by 6x since 2008 and 110% since 2022…*<u>often because "I don't want to buy gold because everyone knows gold isn't used for anything"…</u>*

Meanwhile, the gold/Commodity (GSCI) ratio has risen 5x since 2008 and 110% since 2022:

Former Nike CEO Phil Knight once gave an interview circa 2000 in which he said, *"Everyone is looking for the next Michael Jordan on the basketball court, but he's walking up the fairway"*, referring of course to Tiger Woods.

To adapt Knight's metaphor to macro, ***"Everyone's looking for the US fiscal situation to manifest in the commodity markets, but it's been manifesting in gold and the gold/oil ratio for 15 years already."***

We think the gold/oil ratio is likely going a lot higher over time, for a deceptively simple reason we highlighted in the prior Tree Ring point:

Higher US deficits and inflation being manifested in spiking oil prices will drive US and global stagflation, bond market problems, and economic and political chaos around the world…but since gold "isn't used for anything", it can be inflated as much as needed without creating any "real economy" chaos.

As such, we continue to believe oil will remain rangebound in the range we have been highlighting for most of the past year: $70 to $90 *(below $70 risks driving shale production cuts; above $90 creates UST market dysfunction as oil import costs push critical US foreign creditors into trade deficits that they must sell USTs to finance.)*

We think a rising gold/oil ratio with rangebound oil is good for gold, very good for gold miners, and good for oil producer equity P/E multiples over time (lower oil volatility should drive higher oil equity multiples over time.)

Let's watch.

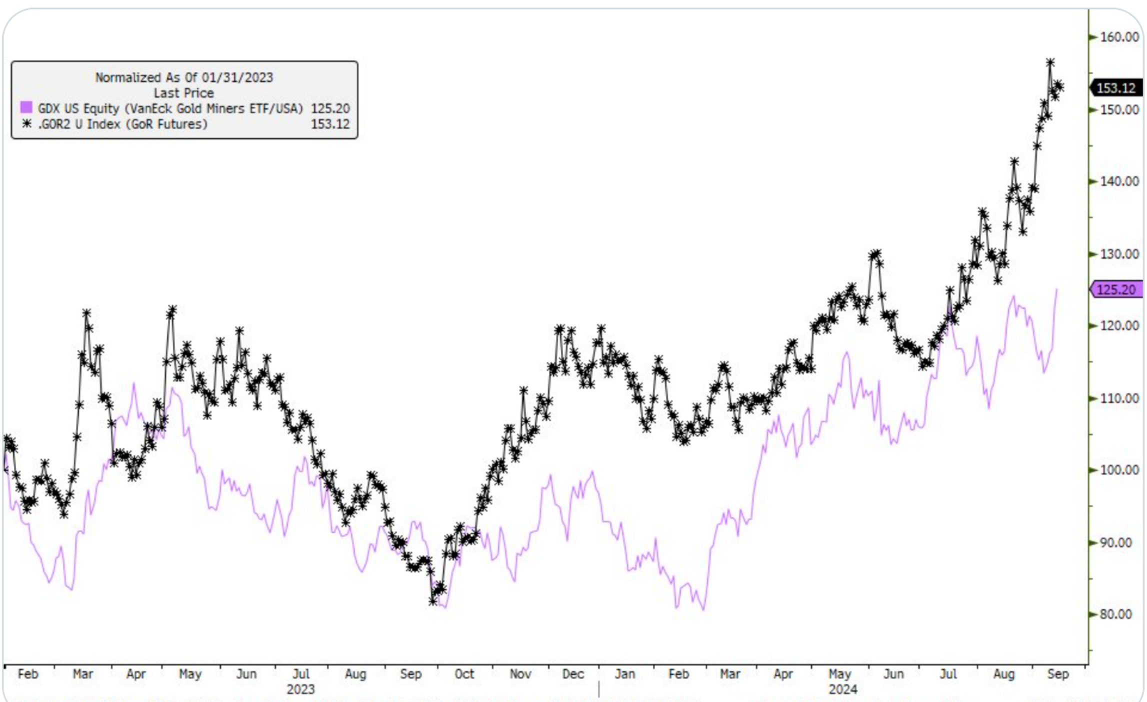
“Gold-Oil Ratio, ~8 year structural breakout”

Tree Ring: Right on cue, our friend DC *(whose X account is woefully underfollowed)* highlighted the following this week:

DC
@dimit

Gold-Oil Ratio (GoR), ~8year structural breakout.
Gold Miners = marginal producers of the Mutli-Polar World's, re-emerging neutral reserve + settlement asset.
Markets begin to comprehend the historical monetary regime implications signaled by GoR.

GDX, 40.13
HUI, 328
GoR (Ftrs), 37.50



If we had to use just one metric as an indicator for prospective gold miner profitability and earnings, it would be the gold/oil ratio. Yet despite the gold/oil ratio rising significantly v. 15 years ago (up from 8 bbls/oz to 37 bbls/oz), gold miners as measured by the GDX ETF are basically unchanged v. 15-year ago levels, despite far higher gold prices.

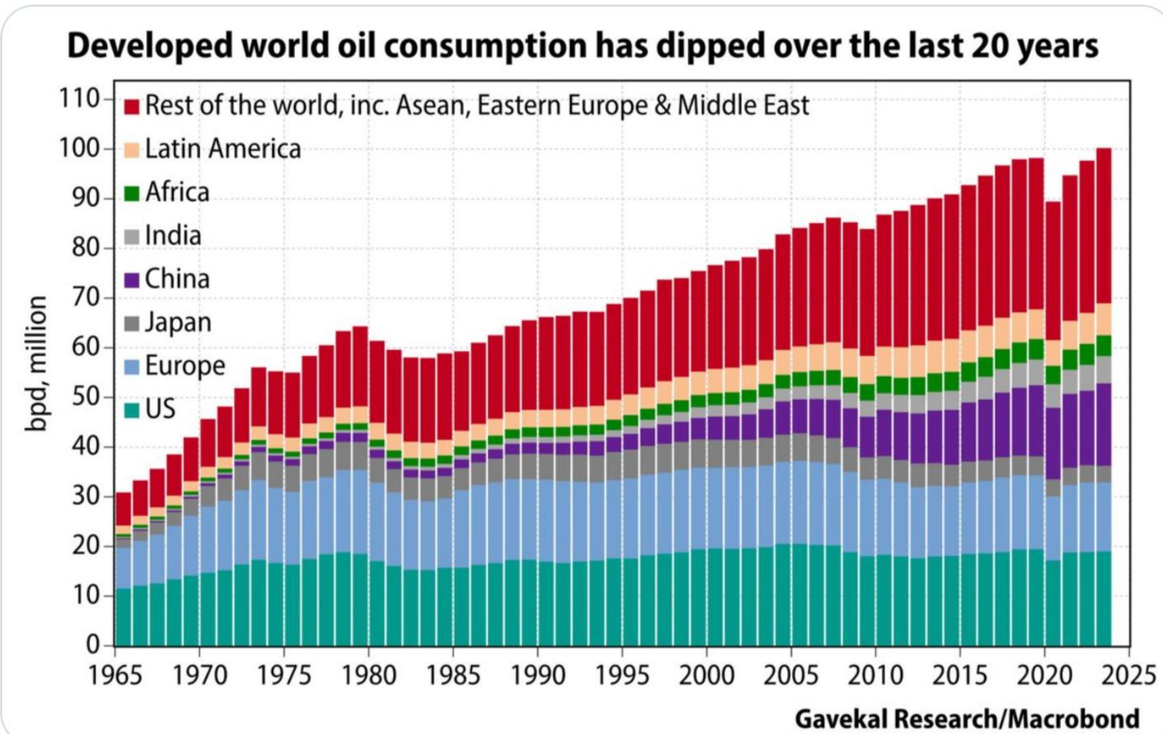
We think this is a function of investors not believing gold’s price rise is sustainable, and more recently, investor appetite for “levered gold plays” being satiated by BTC. However, if we are right about the secular gold/oil ratio breakout and move, generalist investors will likely at some point find gold miners far too cheap to ignore. Let’s watch.

<u>Global oil consumption hits new record, driven by China and other EM's…while US vehicle miles traveled is back above pre-COVID levels</u>

<u>Tree Ring:</u> Global oil consumption is on pace to set a new all-time record, driven by China and other Emerging Markets (EM's, below):

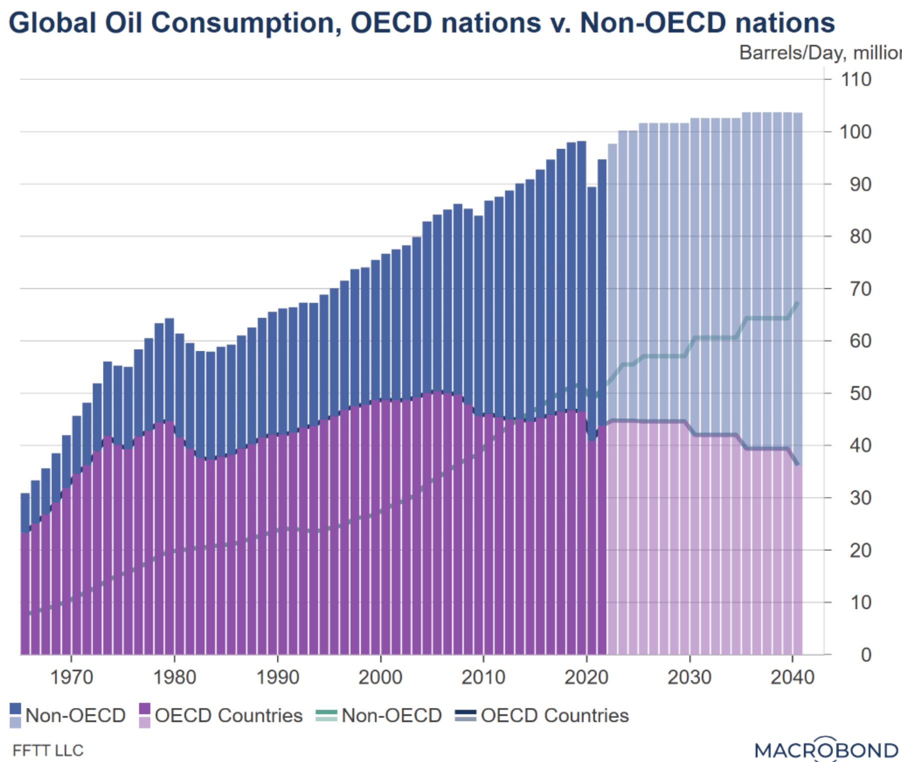
Liz Ann Sonders
@LizAnnSonders

Over past 2 decades, oil demand in U.S., Europe, and Japan has flatlined or even shrunk ... world's annual demand growth has come from China and other emerging markets per @Gavekal



7:32 AM · Sep 13, 2024 · **17.4K** Views

The chart at right breaks down the same data by OECD and non-OECD nations, showing Peak Oil Demand is forecast in developed markets (DM's) but not in EM's:



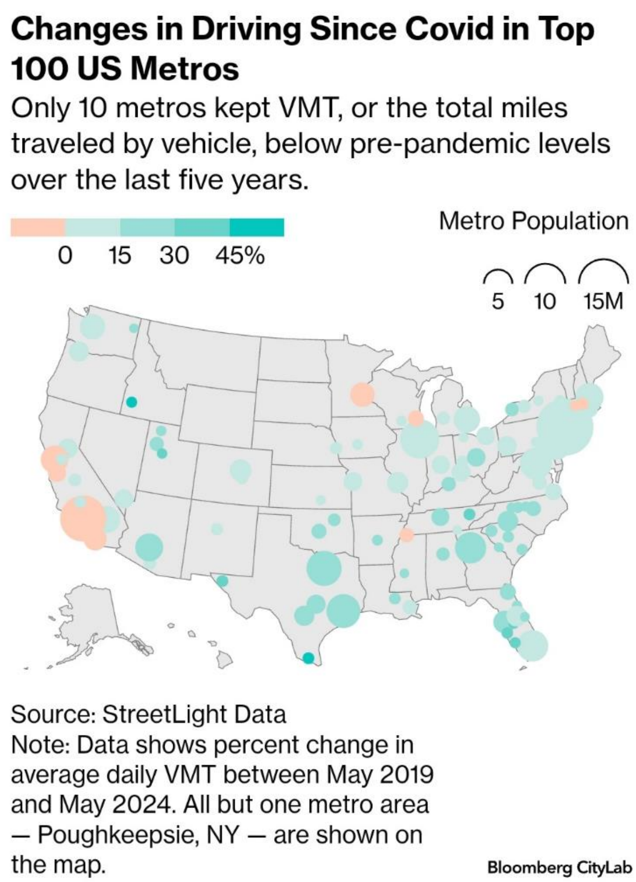
HOWEVER: US driving demand getting back to pre-COVID levels should raise some questions on the forecast for DM oil usage declining inexorably, especially given the spate of recent major automaker headlines warning of electric vehicle (EV) production declines due to weak demand – GM, Ford, Toyota, Volvo, all in the last 3 months:

GM Cuts 2024 Electric Vehicle Production Goal By 50,000 – WJR-AM – 6/12/24

Ford Pulls Back Its Electric Vehicle Push - The New York Times (nytimes.com) – 8/21/24

Toyota cuts 2026 global EV output plans by a third, Nikkei reports | Reuters – 9/6/24

Why Volvo Is Joining Ford And GM In Cutting 2030 EV Production Targets (forbes.com) – 9/5/24



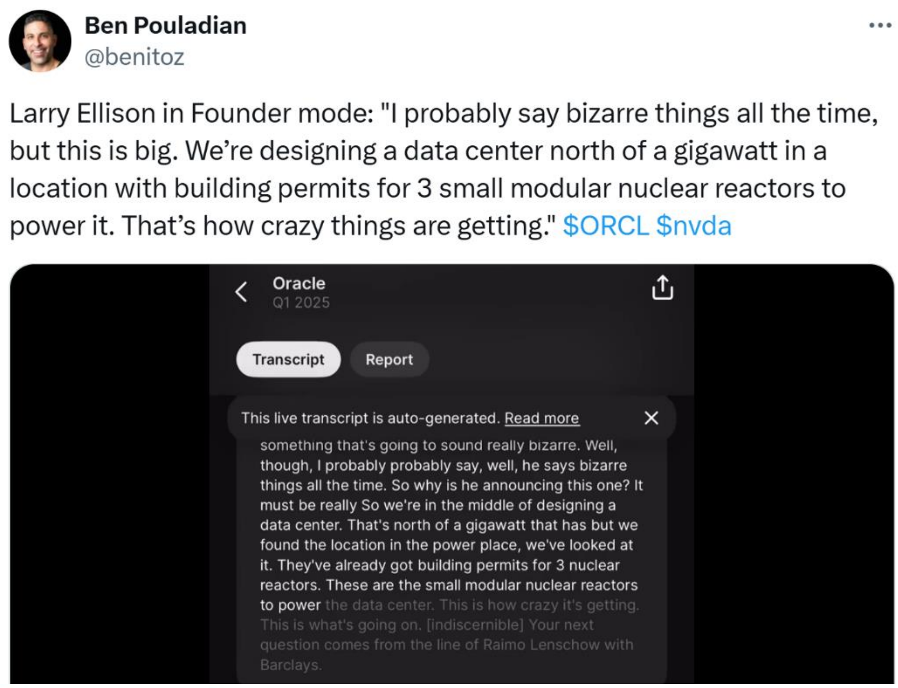
In our view, the above is likely good for keeping for oil prices in the $70-90 range *(>$70 keeps US shale profitable and growing, <$90 keeps UST market functioning.)*

If we are right, then the release valve for the USD liquidity needed to keep the US fiscal situation sustainable and to absorb the resulting inflation has to be an asset that is "not used for anything"… which is gold. Let's watch.

<u>"We're designing a data center north of a gigawatt in a location with building permits for 3 small modular nuclear reactors to power it. That's how crazy things are getting."</u> **<u>-Larry Ellison</u>**

<u>Tree Ring:</u> In a recent public appearance, Larry Ellison (Oracle, Not Rated) recently noted that ongoing extremely high demand for electricity for data centers will soon be addressed by small modular nuclear reactors.

This is great for US electrical infrastructure demand, and a potential productivity miracle if small modular reactors get rolled out broadly, relatively quickly.



Energy investor Mark Nelson highlighted the shift represented in Ellison's comments in a tongue-in-cheek manner at right, noting that in 2022, Big Tech was buying carbon credits to cover their electricity demand *(i.e., essentially buying paper electricity derivatives to address their needs),* whereas now they are needing to buy actual electricity generation capacity directly…

Larry Ellison's and Mark Nelson's comments about Big Tech "going direct" to acquire electricity last week were followed this week by Microsoft emphatically reinforcing the dynamic Ellison and Nelson highlighted:

> ***Microsoft AI Needs So Much Power It's Restarting Site of US Nuclear Meltdown – 9/20/24***
> *[Three Mile Island Nuclear Plant Will Restart to Power Microsoft AI - Bloomberg]*

These trends are good for electrical infrastructure (which we continue to view as "chicken plays" on AI).

It is also good for BTC, in our view – think about it this way:

Microsoft is investing billions to retrofit, restart, and buy the power from a retired nuclear power plant; MSFT can use BTC mining to manage and smooth the electricity demand profile to make the nuke plant easier to run *(less demand for electricity = run BTC mining rigs; more demand for electricity = turn off the BTC mining rigs.)*

Mark Nelson @energybants

However big you think this Microsoft nuclear deal is, I am telling you, it's bigger.

One of the biggest power deals ever.

~$800 million/yr for 20 years
$16 BILLION for one nuclear reactor

From a 40-year-old reactor, just to get to age 60.

We now have a market for newbuild.

> **Mark Nelson** @energybants · 4h
> BREAKING: BLOCKBUSTER MICROSOFT DATACENTER DEAL RESURRECTING THREE MILE ISLAND NUCLEAR PLANT
>
> Microsoft and nuclear plant owner Constellation have agreed to a massive, unprecedented deal to restart the closed Three Mile Island by 2028 to power ...
> Show more
>
> The New York Times
>
> ***Three Mile Island Plans to Reopen as Demand for Nuclear Power Grows***
>
> The infamous plant, closed since 2019, is getting a new lease on life after Microsoft agreed to buy its electricity to supply a growing

As the US reshores and electrifies its infrastructure, BTC can play an important role of planning for demand and balancing load demand, and US politicians are starting to get this (remember Sen. Ted Cruz's comments we highlighted in these pages a month or two ago.)

We continue to like electrical infrastructure equities and BTC, which is functionally indistinguishable from a monetary battery when used in the capacity described above.

Let's watch.

Thank you for reading this edition of Tree Rings. Have a great weekend! LG

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